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REFERENCE DATA ON WORLD POWER

CIA/RR MP-106

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CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

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1. Introduction.

In appraising relative strategic strengths and potential of various regional groupings of the globe, the map, no matter what projection, may be seriously misleading. In a sense it portrays the "board" but not the "pieces" on the board. Herein are assembled data that may be helpful in visualizing the importance of those pieces.*

2. Groupings.

For the sake of simplicity, only the minimum number of significant areas have been selected. These have been grouped according to regional rather than political association and with an eye to the strategic logic of the various "theaters," active and dormant, in which the current power struggle is being waged. Hence often used political groupings -- for example, the British Commonwealth or the Arab World -- have been ignored.

The first group treated is the Soviet Bloc with its three major subdivisions; then follow the two remaining portions of Eurasia. The core of the power base on our side is deemed to include the US, Canada, and US territories. Finally, the peripheral continents, as yet hardly involved in the struggle, are considered.

3. Factors Considered.

Population and economic strength are the only criteria explicitly considered in this paper. However, the introduction of population

* These data are presented in summary form in the appended Table and in graphic form in the five Charts which follow the Table.

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implicitly involves a subjective evaluation of forces in being, location potential, and political and economic organization as well as psychological forces such as religion and nationalism.*

Economic power for war consists of not only the existing stocks of war materials but also the portion of total production which can be diverted to military production. The latter in turn is a function not only of total production but also of total population and the minimum living levels which will maintain the collective will to wage war. In columns 8 and 9 of the Table, an attempt has been made to estimate the proportion of total production which could be diverted to war purposes. It must be recognized that the figures given represent a potential and ignore the willingness of the people to make such a drastic allocation in the absence of total war. In column 10, energy production and gross national product are combined to indicate relative power potential.

The remaining measures of relative power, presented in columns 11 and 12 of the Table, attempt to combine two production factors -- energy production and gross national product -- with population into alternative measures of relative power potential. The first production factor -- energy production -- measures a combination of resource strength and utilization; the second -- gross national product -- wraps up all economic achievement. The Sheikdom of Kuwait fares well under the first, while the UK needs the second to demonstrate its power.

4. Combination.

As an approach to the objective of statistically ordering, for a cold war situation, the relative shares of world power possessed by the groupings selected, the reader is offered three indexes, presented in columns 10, 11, and 12 of the Table and in Charts 3, 4, and 5.

These indexes may be used singly or in combination, as may appear helpful. The case for the index selected will depend, for the most

* Considered in the abstract, it would be difficult to demonstrate a net accretion to power which could be attributed to a population increment, gross national product remaining constant. Power potential is primarily a component of productive capacity. However, the spiritual force and determination of such peoples as the Turks and South Koreans cannot be ignored in an assessment of relative power potential.

part, on the subjective evaluation which the user assigns to the various factors implicitly introduced in the treatment of population in the index selected. Needless to say, other and perhaps more useful indexes can be constructed.

a. Column 10 - Simple Average I.

This index combines arithmetically the indexes of Energy Production (column 4) and Gross National Product (column 7).* This is probably the single most satisfactory index. However, it is subject to the criticism that it gives perhaps too great weight to the highly industrialized regions, such as the US and Canada, where the populace is accustomed to insist on maintaining a relatively high standard of living.

* This index ignores population in favor of the economic factors. However, the same result can be obtained by introducing population into the index as follows: Where the average of the two economic factors -- energy production and gross national product -- exceeds the population factor, the difference, or surplus economic power, is added to the sum of the two, population and economic. Conversely, where the average of the economic factors is less than the population factor, the difference, or deficit, is subtracted from the sum. For example, China has 4-1/2 percent of the combined world energy and gross national product and 20 percent of world population. To arrive at the relative index of Chinese power, 4-1/2 is added to 20 and the difference, 15-1/2, is subtracted, giving a raw score of 9, which, when converted back to a percentile, becomes slightly over 4 percent. Conversely, the UK has 5-1/2 percent of the energy and gross national product but only 2 percent of the population; so 5-1/2 is added to 2, and the difference, 3-1/2, is added to the total, making a raw score of 11, which is convertible to a percentage of 5-1/2.

Where

a = average of the proportion of world energy production and gross world production available to selected regional groupings.

b = proportion of world population available to selected regional groupings.

if $a>b$

$$\text{Simple Average I} = \frac{a+b+(a-b)}{2} = \frac{2a}{2} = a$$

if $a<b$

$$\text{Simple Average I} = \frac{a+b-(b-a)}{2} = \frac{2a}{2} = a$$

b. Column 11 - Simple Average II.

This index combines arithmetically the indexes of Population (column 2), Energy Production (column 4), and Gross National Product (column 7). Its primary weakness is the undue weight which it gives to the heavily populated low-income areas.

c. Column 12 - Adjusted Average I.

This index attempts to eliminate the excessive influence of marginal populations by ignoring the portion of population in excess of twice the percentage of combined energy production and gross national product possessed by the area. For example, China and North Korea have 4-1/2 percent of the world's energy production and gross national product combined, but 20 percent of the world's population; so only 9 percent of the latter (2 x 4-1/2) is allowed to figure in the average.

5. Conclusions.

It is not appropriate to draw conclusions from the limited and somewhat artificial data presented here. However, for purposes of realistic evaluation of programs and policies, it is appropriate to indicate the kind of considerations to which this material is relevant. Hence, merely as examples, the following are offered:

a. The overwhelming importance of North America to the free world, particularly in the event of all-out war, and hence the need for adequate provision for defense of its key industrial centers.
b. The only slightly less critical importance of Western Europe, the addition of which to the Soviet sphere would decisively alter the world balance.
c. The relatively slight importance of non-Communist Asia, particularly Southeast Asia.
d. The relative insignificance of Latin America and Africa, particularly Africa.

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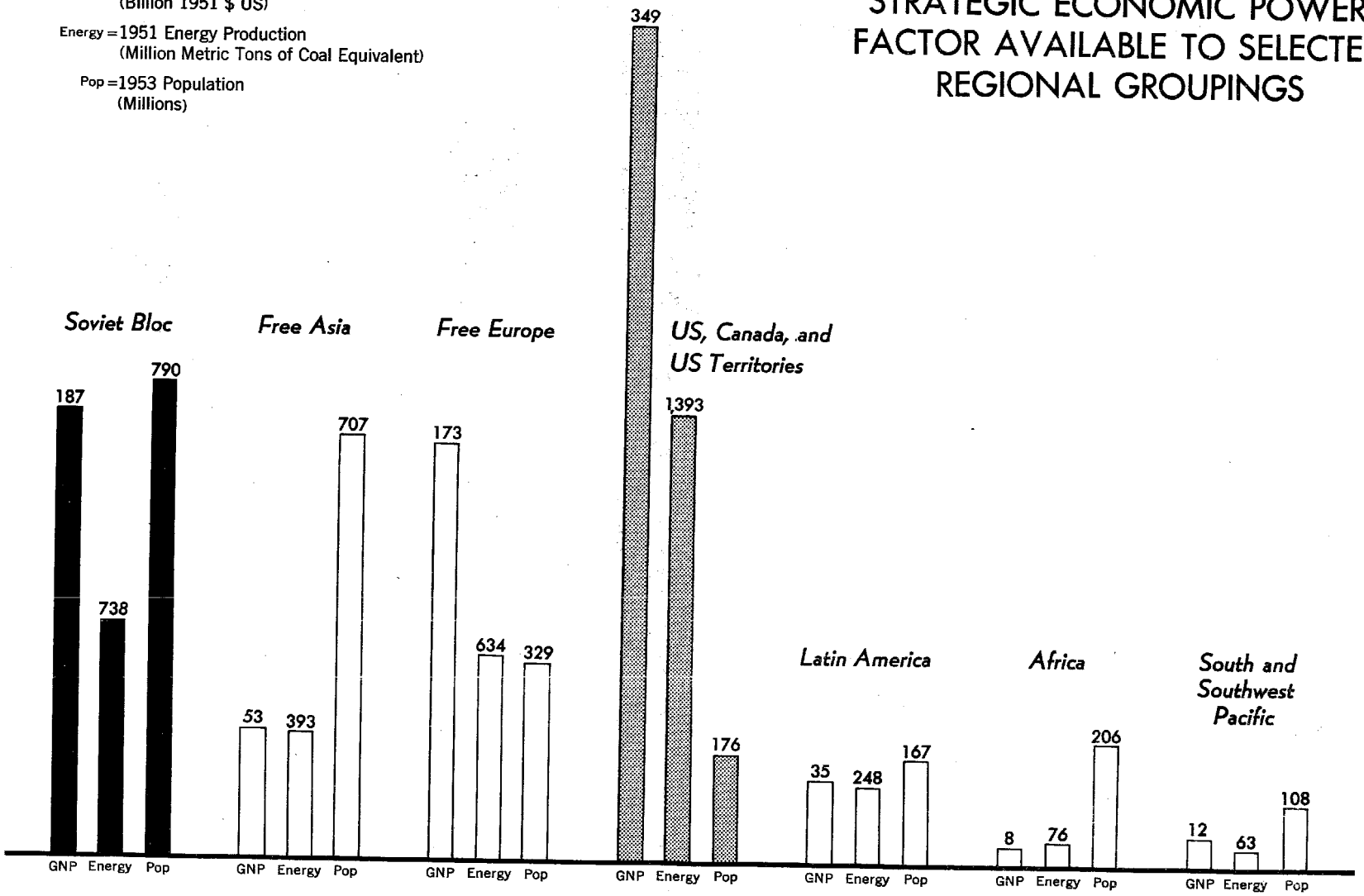
Chart 1

STRATEGIC ECONOMIC POWER FACTOR AVAILABLE TO SELECTED REGIONAL GROUPINGS

GNP = 1951 Gross National Product (Billion 1951 $ US)

Energy = 1951 Energy Production (Million Metric Tons of Coal Equivalent)

Pop = 1953 Population (Millions)



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VALUE OF THE ESTIMATED PROPORTION OF CURRENT GROSS NATIONAL PRODUCT WHICH COULD BE MADE AVAILABLE FOR MILITARY PURPOSES UNDER TOTAL WAR CONDITIONS

(Billion $ US)

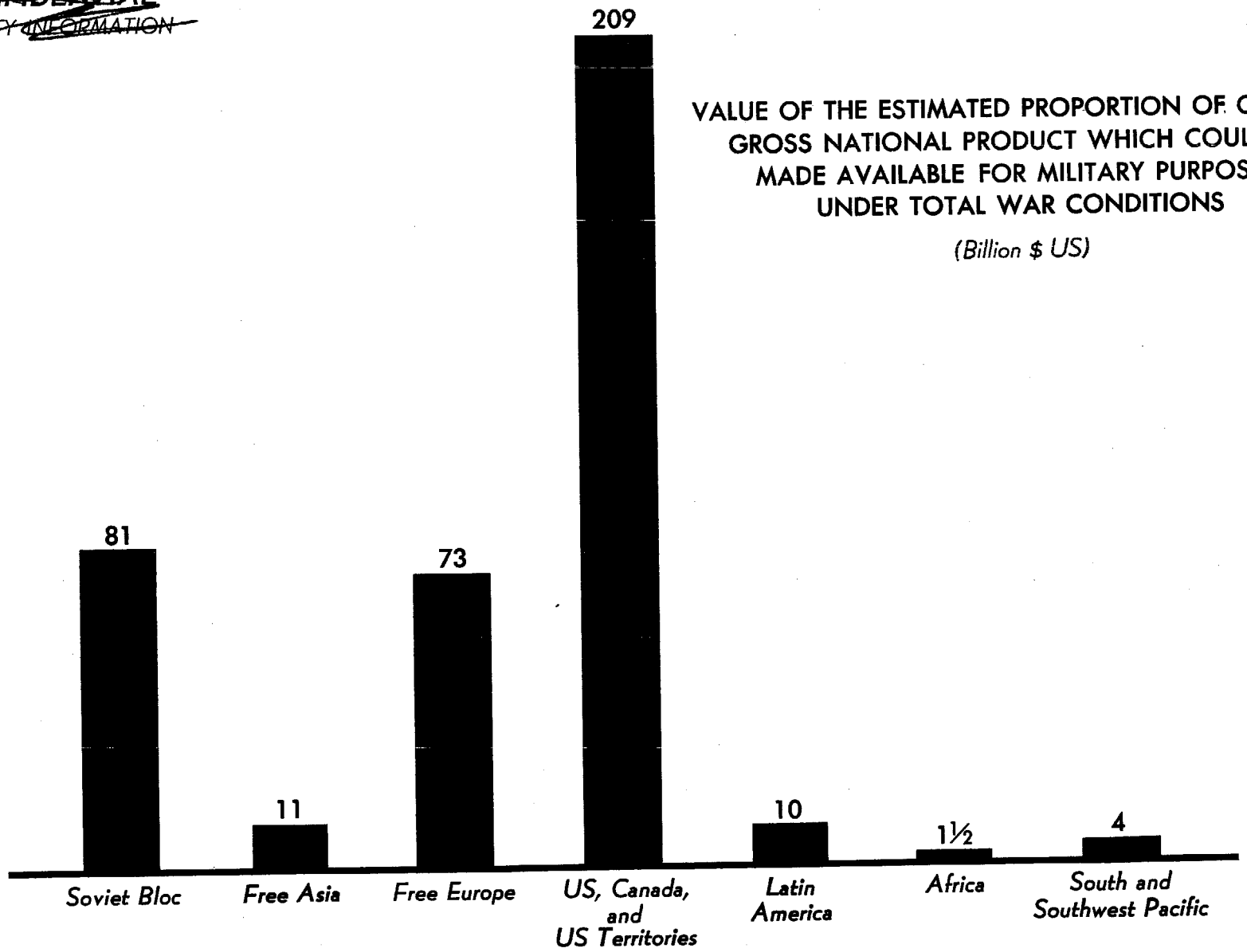

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Chart 3

STRATEGIC POWER INDEX — SIMPLE AVERAGE I

AVERAGE OF THE PROPORTIONS OF WORLD ENERGY PRODUCTION AND GROSS PRODUCTION AVAILABLE TO SELECTED REGIONAL GROUPINGS

(Percent of World Total)

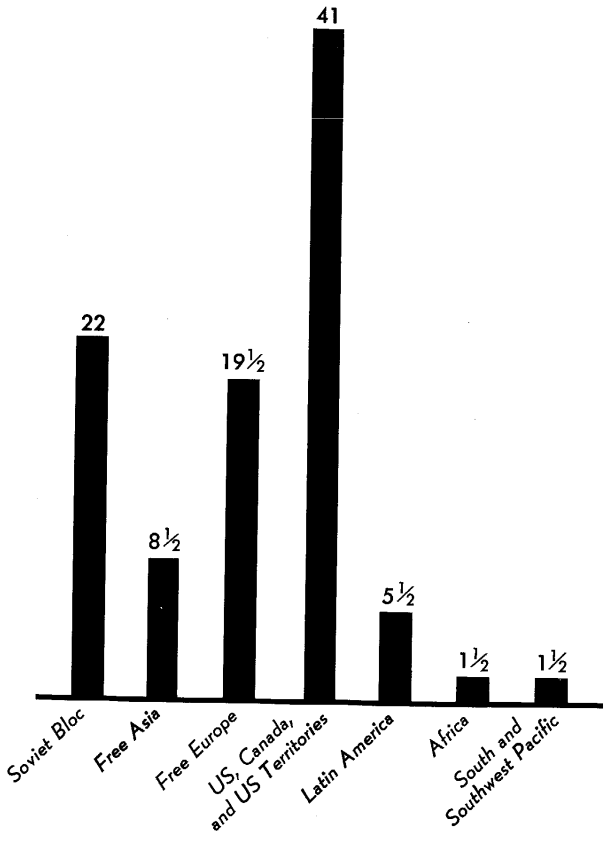

Chart 4

STRATEGIC POWER INDEX — SIMPLE AVERAGE II

AVERAGE OF THE PROPORTIONS OF WORLD POPULATION, ENERGY PRODUCTION, AND GROSS PRODUCTION AVAILABLE TO SELECTED REGIONAL GROUPINGS

(Percent of World Total)

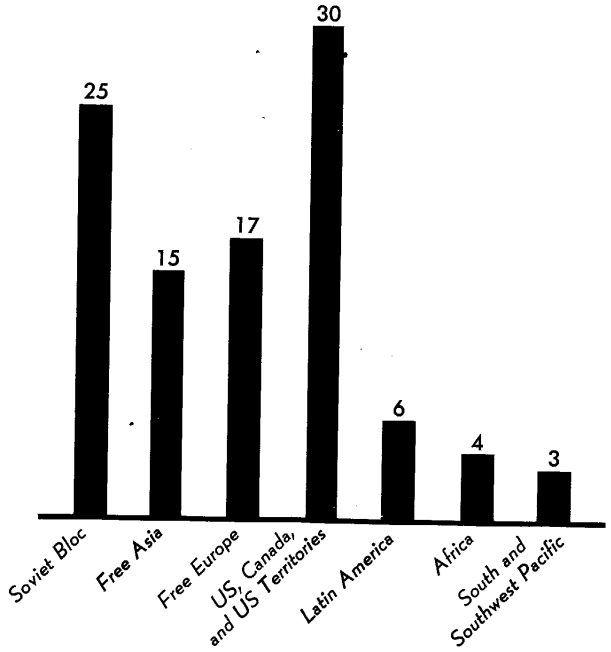

Chart 5

STRATEGIC POWER INDEX — ADJUSTED AVERAGE I

(Percent of World Total)

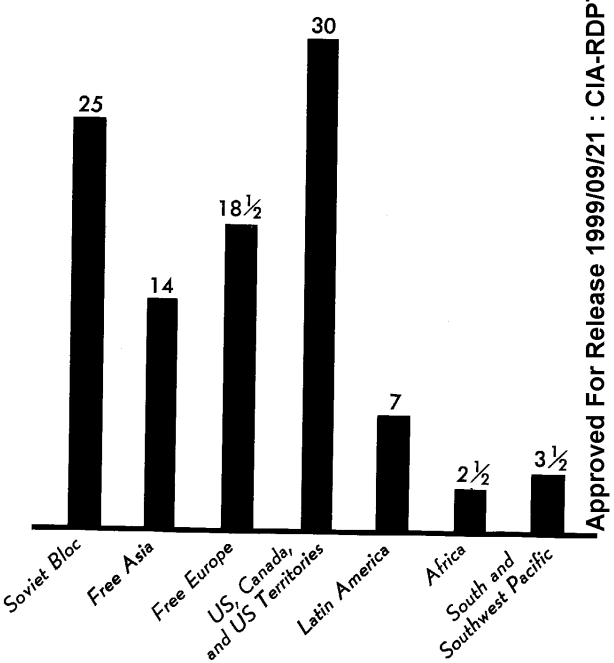

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Table

Summary of Reference Data on World Power

	1	2	3	4	5	6	7	8	9	10	11	12
	1953 Population		1951 Energy Production		1951 GNP			Estimated Proportion of GNP Available to Military				
	Millions	Percent of World	Million Metric Tons of Coal Equivalent	Percent of World		1951 $ US Per Capita	Percent of World	Percent	Billion $ US	Percent of World	Simple Average I (Col's. 4,7)	Simple Average II (Col's. 2,4,7)	Adjusted Average I
USSR	211	8	374	11	104	493	13	50	52	13	12	11	12
European Satellites	91	4	222	6	43	472	5	40	17	4	6	5	5-1/2
China and North Korea	488	20	142	4	40	82	5	30	12	3	4	9	7-1/2
Total Soviet Bloc	790	32	738	21	187	237	23		81	20	22	25	25
Middle East	52	2	140	4	3	58	1/2	20	1/2		2	2+	2-1/2
India, Pakistan, and South Asia	467	19	147	4	32	69	4	20	6	1-1/2	4	9	7
SE Asia, Formosa, and South Korea	102	4	25	1/2	5	46	1/2	20	1	1/2	1/2	2-	1-1/2
Japan	86	3	81	2	13	153	1-1/2	20	3	1	2	2+	3
Total Free Asia	707	28	393	11	53	75	6-1/2	20	11	3	8-1/2	15-	14
Continental Western Europe and Turkey	278	11	406	12	131	471	16	40	52	13	14	13	14
(West Germany)	(51)	(2)	(158)	(5)	(27)	(530)	(3)	40	(11)	(3)	(4)	(3)	(3-1/2)
UK	51	2	228	6	42+	835	5	50	21	5	5-1/2	4	4-1/2
Total Free Europe	329	13	634	18	173+	527	21		73	19	19-1/2	17+	18-1/2
US, Canada, and US Territories	176	7	1,393	39	349	1,981	43	60	209	54	41	30-	30
Latin America	167	7	248	7	35	210	4	30	10	2-1/2	5-1/2	6	7
Africa	206	8	76	2	8	41	1	20	1-1/2	1/2	1-1/2	4-	2-1/2
Indonesia, Philippines, and Oceania	97	4	34	1	4-	37	1/2	10	1/2		1	2	2
Australia and New Zealand	11	1/2	29	1-	9-	800	1	40	3-1/2	1	1/2	1	1-1/2
Total South and Southwest Pacific	108	5	63	2	12+	115	1-1/2	20	4	1	1-1/2	3-	3-1/2
World Total	2,483	100	3,545	100	818	333	100		390	100	100	100	100
Graphically Presented	Chart 1		Chart 1		Chart 1				Chart 2		Chart 3	Chart 4	Chart 5

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